

## CLAIMS

1. A process for producing propylene oxide, which comprises the following steps:

5       oxidation step: a step of obtaining cumene hydroperoxide by oxidizing cumene;

          epoxidation step: a step of obtaining propylene oxide and cumyl alcohol by reacting cumene hydroperoxide obtained in the oxidation step with propylene; and

10       converting step: a step of converting cumyl alcohol obtained in the epoxidation step into cumene in the presence of a solid catalyst and recycling said cumene to the oxidation step,

          wherein a concentration of methylbenzyl alcohol in a liquid containing cumene recycled to the oxidation step, is 1% by weight  
15       or less.

2. The process according to claim 1, wherein the conversion step comprises the following steps:

          dehydration step: a step of obtaining  $\alpha$ -methyl styrene by dehydrating cumyl alcohol obtained in the epoxidation step  
20       in the presence of a dehydration catalyst; and

          hydrogenation step: a step of obtaining cumene by hydrogenation  $\alpha$ -methyl styrene to obtain cumene, and recycling the cumene to the oxidation step.

3. The process according to claim 1, wherein the conversion  
25       step comprises the following step:

          hydrogenolysis step; a step of obtaining cumene by subjecting cumyl alcohol obtained in the epoxidation step to hydrogenolysis in the presence of a hydrogenolysis catalyst, and recycling the cumene to the oxidation step as the raw

material.

4. The process according to claim 1, wherein the process further comprises a step of removing methylbenzyl alcohol outside the reaction system at least one place in the steps or between which
- 5 the steps are connected.